

29/08/2003

Referee's comments on the manuscript

**„Space Weather Effects on SOHO and its Space Weather Warning Capabilities
by P. Brekke et al., submitted to ESPRIT conf. proceedings, 2003.**

General comments

This paper presents a brief summary of the space weather effects experienced by the SOHO spacecraft and its unique capabilities to enhance our current physical understanding of the effects of solar eruptions at Earth's orbit. The paper is very well written and is suitable for publication after the minor comments below are taken into account by the authors. Sections 2.1, 3.1.1 b) and 3.1.2 appear a little too brief.

Specific comments

1) p.1, Title of manuscript

I suggest to emphasize a little more the current space weather prediction (forecast) capabilities of SOHO (e.g., advance warning of space storms, etc.) within parts of the paper to match a little stronger what the title suggests.

2) p.1, Abstract

l. 8: is it worth to mention here that also the solar wind is shielded (i.e. ... from high energy particles and the solar wind)?

3) p. 2, l. 9

I suggest moving this sentence (Figure 1 provides ...) up to the place where Fig. 1 is introduced, i.e. "... 4.3 m high. Figure 1 ..."

4) p. 3, 1st par.

I disagree with the statement that LASCO is the perfect tool to detect CMEs heading towards/away from the Earth. LASCO best observes limb CMEs, but its extreme sensitivity even allows unprecedented detection of halos. The STEREO mission will be ideally to detect earthward directed CMEs.

5) p.3, 2nd par.

Figure 2 shows LASCO images recorded by the LASCO C2 and C3 detectors.
The ref. to Howard et al., 1982 is missing.

6) p. 3, last par.

I'm not entirely sure whether faint CMEs are really of much lower mass.

7) p.4, l.2

I suggest to remove the brackets and to say: "... the average and median ..."

8) p.4, Fig. caption 2, typo: "The field of view ..."

9) p.4, last par.: same comment as in 4): SOHO is NOT the best monitoring system for Earth directed CMEs. It is certainly the best we have now, but the sentence is misleading.

10) p.5, 1st par.: CELIAS, etc. A number of acronyms used in the text are not explained.

11) p. 5, 2nd par., suggest explicitly stating again the orbit here: “in its L1 Halo orbit.”

12) p.5, last par.: I’m not sure whether the par. (wording) is grammatically proper set. “... can cause the following failures:”

13) p.7: acronym SEU

14) p.8, 1st par.: I thought that the generated electrons produce bright parts (pixels) in a single image, i.e. “... producing star-like signatures.”.

15) p.9, acronym AOCS

16) p. 11, 1st par., typo: “... and on other spacecraft, ...”
last par. on page, typo : “... showers are not purely ...”

17) p.12, 1st par.: CDS, etc. acronymes.